

1/9/1
DIALOG(R) File 345:Inpadoc/Fam.& Legal Stat
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9855917

Basic Patent (No,Kind,Date): DE 3942728 C1 910523 <No. of Patents: 011>

PATENT FAMILY:

AUSTRIA (AT)

Patent (No,Kind,Date): AT 140461 E 960815
IMMUNOLOGISCH AKTIVE PROTEINE VON BORRELIA BURGDORFERI,
ZUSAMMENHAENGENDE TESTKITS UND IMPFSTOFF (German)
Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (DE)
Author (Inventor): FUCHS RENATE (DE); WILSKE BETTINA (DE);
PREAC-MURSIC VERA (DE); MOTZ MANFRED (DE); SOUTSCHEK ERWIN (DE)
Priority (No,Kind,Date): DE 3942728 A 891222; DE 4018988 A
900613
Applic (No,Kind,Date): EP 91902687 A 901221
Addnl Info: 00506868 960717
IPC: * C07K-014/00; C12N-015/31; G01N-033/569; A61K-039/02
CA Abstract No: * 116(09)082043S; 116(09)082044T
Derwent WPI Acc No: * C 91-149753; C 91-222844
Language of Document: German

AUSTRIA (AT)

Legal Status (No,Type,Date,Code,Text):
AT 140461 R 960815 AT REF CORRESPONDS TO EP-PATENT
(ENTSPRICHT EP-PATENT)
EP 506868 P 960717

AUSTRALIA (AU)

Patent (No,Kind,Date): AU 9170586 A1 910724
IMMUNOLOGICALLY ACTIVE PROTEINES FROM BORRELIA BURGDORFERI, RELATED
TEST KITS AND VACCINE (English)
Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE
Author (Inventor): FUCHS RENATE; WILSKE BETTINA; PREAC-MURSIC VERA;
MOTZ MANFRED; SOUTSCHEK ERWIN
Priority (No,Kind,Date): WO 90EP2282 A 901221; DE 3942728 A
891222; DE 4018988 A 900613
Applic (No,Kind,Date): AU 9170586 A 901221
IPC: * C07K-013/00; C12N-015/31; G01N-033/569; A61K-039/02
Derwent WPI Acc No: * C 91-149753
Language of Document: English

CANADA (CA)

Patent (No,Kind,Date): CA 2072008 AA 910623
IMMUNOLOGICALLY ACTIVE PROTEINS FROM BORRELIA BURGDORFERI, RELATED TEST
KITS AND VACCINE (English; French)
Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (DE)
Author (Inventor): FUCHS RENATE (DE); WILSKE BETTINA (DE);
PREAC-MURSIC VERA (DE); MOTZ MANFRED (DE); SOUTSCHEK ERWIN (DE)
Priority (No,Kind,Date): DE 3942728 A 891222; DE 4018988 A
900613
Applic (No,Kind,Date): CA 2072008 A 901221
IPC: * C12N-015/31; C07K-013/00; G01N-033/569; A61K-039/02
CA Abstract No: * 116(09)082043S; 116(09)082044T
Derwent WPI Acc No: * C 91-149753; C 91-222844
Language of Document: English

GERMANY (DE)

Patent (No,Kind,Date): DE 4018988 A1 911219
IMMUNOLOGISCH AKTIVE PROTEINE VON BORRELIA BURGDORFERI, TESTKITS, DIE
DIESE PROTEINE ENTHALTEN UND ZUM NACHWEIS VON ANTIKOERPERN IN
UNTERSUCHUNGSFLUESSIGKEITEN GEEIGNET SIND, MONOKLONALE ANTIKOERPER,
DIE GEGEN DIE IMMUNOLOGISCH AKTIVEN PROTEINE GERICHTET SIND UND DIE
VERWENDUNG DIESER PROTEINE ALS IMPFSTOFFE GEGEN DURCH
BORRELIA-STAEEMME HERVORGERUFENE INFESTIONEN (German)
Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (DE)

Author (Inventor): FUCHS RENATE DR (DE); WILSKE BETTINA DR (DE);
 PREAC-MURSIC VERA DR (DE); MOTZ MANFRED DR (DE); SOUTSCHEK ERWIN DR
 (DE)
 Priority (No,Kind,Date): DE 4018988 A 900613
 Applic (No,Kind,Date): DE 4018988 A 900613
 IPC: * C07K-015/04; C07K-015/28; C12N-015/31; C12Q-001/28; C12Q-001/68
 ; A61K-037/02; A61K-039/395; G01N-033/53; G01N-033/566
 Derwent WPI Acc No: * C 91-222844
 Language of Document: German
 Patent (No,Kind,Date): DE 59010422 C0 960822
 IMMUNOLOGISCH AKTIVE PROTEINE VON BORRELIA BURGDORFERI,
 ZUSAMMENHAENGENDE TESTKITS UND IMPFSTOFF (German)
 Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (DE)
 Author (Inventor): FUCHS RENATE (DE); WILSKE BETTINA (DE);
 PREAC-MURSIC VERA (DE); MOTZ MANFRED (DE); SOUTSCHEK ERWIN (DE)
 Priority (No,Kind,Date): DE 59010422 A 901221; DE 3942728 A
 891222; DE 4018988 A 900613; WO 90EP2282 W 901221
 Applic (No,Kind,Date): DE 59010422 A 901221
 IPC: * C07K-014/00; C12N-015/31; G01N-033/569; A61K-039/02
 CA Abstract No: * 116(09)082043S; 116(09)082044T
 Derwent WPI Acc No: * C 91-149753; C 91-222844
 Language of Document: German
 Patent (No,Kind,Date): DE 3942728 C1 910523
 IMMUNOLOGISCH AKTIVE PROTEINE VON BORRELIA BURGDORFERI, MONOKLONALE
 ANTIKOERPER, DIE GEGEN DIE IMMUNOLOGISCH AKTIVEN PROTEINE GERICHTET
 SIND UND DIE VERWENDUNG DIESER PROTEINE ZUM NACHWEIS VON ANTIKOERPERN
 IN UNTERSUCHUNGSFLUESSIGKEITEN UND ALS IMPFSTOFFE GEGEN DURCH
 BORRELIA-STAEEMME HERVORGERUFENE INFESTIONEN (German)
 Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (DE)
 Author (Inventor): FUCHS RENATE DR (DE); WILSKE BETTINA DR (DE);
 PREAC-MURSIC VERA DR (DE); MOTZ MANFRED DR (DE); SOUTSCHEK ERWIN DR
 (DE)
 Priority (No,Kind,Date): DE 3942728 A 891222
 Applic (No,Kind,Date): DE 3942728 A 891222
 Filing Details: DE C1 D1 Grant of a patent without OS
 IPC: * C07K-015/04; C12N-015/63; C07K-015/28; G01N-033/53; G01N-033/68
 ; A61K-039/02; A61K-049/00; C12Q-001/28; C12P-021/00; C12R-001-19;
 C07K-003/20
 CA Abstract No: ; 116(09)082043S
 Derwent WPI Acc No: ; C 91-149753
 Language of Document: German

GERMANY (DE)

Legal Status (No,Type,Date,Code,Text):			
DE 3942728	P	891222	DE AE DOMESTIC APPLICATION (PATENT APPLICATION) (INLANDSANMELDUNG (PATENTANMELDUNG))
			DE 3942728 A 891222
DE 3942728	P	910523	DE D1 GRANT (NO UNEXAMINED APPLICATION PUBLISHED) PATENT LAW 81 (PATENTERTEILUNG (KEINE OS) PATG. 81)
DE 3942728	P	910523	DE 8100 PUBLICATION OF THE EXAMINED APPLICATION WITHOUT PUBLICATION OF UNEXAMINED APPLICATION (BEKANNTMACHUNG DER ERTEILUNG OHNE VORHERIGE OFFENLEGUNG)
DE 3942728	P	911024	DE 8363 OPPOSITION AGAINST THE PATENT (EINSPRUCH GEGEN DAS PATENT ERHOBEN)
DE 3942728	P	970116	DE 8339 CEASED/NON-PAYMENT OF THE ANNUAL FEE (WEGEN NICHTZ. D. JAHRESGEB. ERLOSCHEN)
DE 4018988	P	900613	DE AE DOMESTIC APPLICATION (PATENT APPLICATION) (INLANDSANMELDUNG (PATENTANMELDUNG))
			DE 4018988 A 900613
DE 4018988	P	911219	DE A1 LAYING OPEN FOR PUBLIC INSPECTION (OFFENLEGUNG)
DE 4018988	P	970703	DE 8110 REQUEST FOR EXAMINATION PARAGRAPH 44 (EINGANG VON PRUEFUNGSANTRAESEN PAR. 44)

DE 59010422 P 960822 DE REF CORRESPONDS TO (ENTSPRICHT)
 EP 506868 P 960822
 DE 59010422 P 970717 DE 8363 OPPOSITION AGAINST THE PATENT
 (EINSPRUCH GEGEN DAS PATENT ERHOEBEN)

DENMARK (DK)

Patent (No,Kind,Date): DK 506868 T3 960812
 IMMUNOLOGISK AKTIVE PROTEINER FRA BORRELIA BURGDORFERI, TILHOERENDE
 TESTKITS OG VACCINE (Danish)
 Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (DE)
 Author (Inventor): FUCHS RENATE (DE); WILSKE BETTINA (DE);
 PREAC-MURSIC VERA (DE); MOTZ MANFRED (DE); SOUTSCHEK ERWIN (DE)
 Priority (No,Kind,Date): DE 3942728 A 891222; DE 4018988 A
 900613
 Applic (No,Kind,Date): DK 9191902687 A 901221
 IPC: * C07K-013/00; A61K-039/02; C12N-015/31; G01N-033/569
 CA Abstract No: * 116(09)082043S; 116(09)082044T
 Derwent WPI Acc No: * C 91-149753; C 91-222844
 Language of Document: Danish

EUROPEAN PATENT OFFICE (EP)

Patent (No,Kind,Date): EP 506868 A1 921007
 IMMUNOLOGICALLY ACTIVE PROTEINES FROM BORRELIA BURGDORFERI, RELATED
 TEST KITS AND VACCINE (English; French; German)
 Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (DE)
 Author (Inventor): FUCHS RENATE (DE); WILSKE BETTINA (DE);
 PREAC-MURSIC VERA (DE); MOTZ MANFRED (DE); SOUTSCHEK ERWIN (DE)
 Priority (No,Kind,Date): WO 90EP2282 W 901221; DE 3942728 A
 891222; DE 4018988 A 900613
 Applic (No,Kind,Date): EP 91902687 A 901221
 Designated States: (National) AT; BE; CH; DE; DK; ES; FR; GB; IT; LI;
 LU; NL; SE
 IPC: * C07K-013/00; C12N-015/31; G01N-033/569; A61K-039/02
 CA Abstract No: * 116(09)082043S; 116(09)082044T
 Derwent WPI Acc No: * C 91-149753; C 91-222844
 Language of Document: German
 Patent (No,Kind,Date): EP 506868 B1 960717
 IMMUNOLOGICALLY ACTIVE PROTEINES FROM BORRELIA BURGDORFERI, RELATED
 TEST KITS AND VACCINE (English; French; German)
 Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (DE)
 Author (Inventor): FUCHS RENATE (DE); WILSKE BETTINA (DE);
 PREAC-MURSIC VERA (DE); MOTZ MANFRED (DE); SOUTSCHEK ERWIN (DE)
 Priority (No,Kind,Date): DE 4018988 A 900613; DE 3942728 A
 891222; WO 90EP2282 W 901221
 Applic (No,Kind,Date): EP 91902687 A 901221
 Designated States: (National) AT; BE; CH; DE; DK; ES; FR; GB; IT; LI;
 LU; NL; SE
 IPC: * C07K-014/00; C12N-015/31; G01N-033/569; A61K-039/02
 CA Abstract No: * 116(09)082043S; 116(09)082044T
 Derwent WPI Acc No: * C 91-149753; C 91-222844
 Language of Document: German

EUROPEAN PATENT OFFICE (EP)

Legal Status (No,Type,Date,Code,Text):
 EP 506868 P 891222 EP AA PRIORITY (PATENT APPLICATION)
 (PRIORITAET (PATENTANMELDUNG))
 DE 3942728 A 891222
 EP 506868 P 900613 EP AA PRIORITY (PATENT APPLICATION)
 (PRIORITAET (PATENTANMELDUNG))
 DE 4018988 A 900613
 EP 506868 P 901221 EP AA PCT-APPLICATION (PCT-ANMELDUNG)
 WO 90EP2282 W 901221
 EP 506868 P 901221 EP AE EP-APPLICATION (EUROPAEISCHE
 ANMELDUNG)
 EP 91902687 A 901221
 EP 506868 P 921007 EP AK DESIGNATED CONTRACTING STATES IN
 AN APPLICATION WITH SEARCH REPORT (IN EINER

			ANMELDUNG BENANNTE VERTRAGSSTAATEN) AT BE CH DE DK ES FR GB IT LI LU NL SE
EP 506868	P	921007	EP A1 PUBLICATION OF APPLICATION WITH SEARCH REPORT (VEROEFFENTLICHUNG DER ANMELDUNG MIT RECHERCHENBERICHT)
EP 506868	P	921007	EP 17P REQUEST FOR EXAMINATION FILED (PRUEFUNGSANTRAG GESTELLT) 920619
EP 506868	P	930428	EP 17Q FIRST EXAMINATION REPORT (ERSTER PRUEFUNGSBESCHEID) 930316
EP 506868	P	960717	EP AK DESIGNATED CONTRACTING STATES MENTIONED IN A PATENT SPECIFICATION (IN EINER PATENTSCHRIFT ANGEFUEHRTE BENANNTE VERTRAGSSTAATEN) AT BE CH DE DK ES FR GB IT LI LU NL SE
EP 506868	P	960717	EP B1 PATENT SPECIFICATION (PATENTSCHRIFT)
EP 506868	P	960717	EP REF IN AUSTRIA REGISTERED AS: (IN AT EINGETRAGEN ALS:) AT 140461 R 960815
EP 506868	P	960812	DK T3/REG TRANSLATION OF EP PATENT
EP 506868	P	960820	EP ITF IT: TRANSLATION FOR A EP PATENT FILED (IT: DEPOSITO TRADUZIONE DI BREVETTO EUROPEO) ST. DR. CAVATTONI ING. A. RAIMONDI
EP 506868	P	960822	EP REF CORRESPONDS TO: (ENTSPRICHT) DE 59010422 P 960822
EP 506868	P	960906	EP ET FR: TRANSLATION FILED (FR: TRADUCTION A ETE REMISE)
EP 506868	P	960925	EP GBT GB: TRANSLATION OF EP PATENT FILED (GB SECTION 77(6)(A)/1977) (GB: TRANSLATION OF EP PATENT FILED (GB SECT. 77(6)(A)/1977)) 960902
EP 506868	P	961031	CH NV/REG NEW AGENT (NEUER VERTRETER/NOUVEAUX MANDATAIRES/NUOVI MANDATARI) PATENTANWAELTE SCHAAD, BALASS, MENZL & PARTNER AG
EP 506868	P	961201	ES FG2A/REG DEFINITIVE PROTECTION (PROTECCION DEFINITIVA) 2092560T3
EP 506868	P	970611	EP 26 OPPOSITION FILED (EINSPRUCH EINGELEGT) 970411 RAVO DIAGNOSTIKA GMBH ; 970417 IMMUNO AKTIENGESELLSCHAFT
EP 506868	P	970801	EP NLR1 NL: OPPOSITION HAS BEEN FILED WITH THE EPO (NL: EUROPESE OCTROOIEN, WAARTEGEN OPPOSITIE IS INGESTELD) RAVO DIAGNOSTIKA GMBH;IMMUNO AKTIENGESELLSCHAFT
EP 506868	P	981209	EP R26 OPPOSITION FILED (CORRECTION) (EINSPRUCH EINGELEGT (KORR.)) 970411 RAVO DIAGNOSTIKA GMBH ; 970417 IMMUNO AKTIENGESELLSCHAFT
EP 506868	P	990201	EP NLR1 NL: OPPOSITION HAS BEEN FILED WITH THE EPO (NL: EUROPESE OCTROOIEN, WAARTEGEN OPPOSITIE IS INGESTELD) RAVO DIAGNOSTIKA GMBH;IMMUNO AKTIENGESELLSCHAFT

SPAIN (ES)

Patent (No,Kind,Date): ES 2092560 T3 961201

PROTEINAS INMUNOLOGICAMENTE ACTIVAS DE BORRELIA BURGDORFERI, ESTUCHES
DE ENSAYO RELACIONADOS Y VACUNA. (Spanish)

Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE

Author (Inventor): FUCHS RENATE (DE); WILSKE BETTINA (DE);

PREAC-MURSIC VERA (DE); MOTZ MANFRED (DE); SOUTSCHEK ERWIN (DE)
Priority (No,Kind,Date): DE 3942728 A 891222; DE 4018988 A
900613
Applic (No,Kind,Date): ES 91902687 EP 901221
Addnl Info: 0506868 EP patent valid in AT
IPC: * C07K-014/00; C12N-015/31; G01N-033/569; A61K-039/02
CA Abstract No: * 116(09)082043S; 116(09)082044T
Derwent WPI Acc No: * C 91-149753; C 91-222844
Language of Document: Spanish

SPAIN (ES)

Legal Status (No,Type,Date,Code,Text):
ES 2092560 P 961201 ES FG2A DEFINITIVE PROTECTION
(PROTECCION DEFINITIVA)
506868

WORLD INTELLECTUAL PROPERTY ORGANIZATION, PCT (WO)

Patent (No,Kind,Date): WO 9109870 A1 910711
IMMUNOLOGICALLY ACTIVE PROTEINES FROM BORRELIA BURGDORFERI, RELATED
TEST KITS AND VACCINE (English)
Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (DE)
Author (Inventor): FUCHS RENATE (DE); WILSKE BETTINA (DE);
PREAC-MURSIC VERA (DE); MOTZ MANFRED (DE); SOUTSCHEK ERWIN (DE)
Priority (No,Kind,Date): DE 3942728 A 891222; DE 4018988 A
900613
Applic (No,Kind,Date): WO 90EP2282 A 901221
Designated States: (National) AU; CA; FI; JP; NO; US (Regional) AT;
BE; CH; DE; DK; ES; FR; GB; GR; IT; LU; NL; SE
Filing Details: WO 130000 With international search report; Before
expiration of time limit for amending the claims and to be
republished in the event of the receipt of the amendments
IPC: * C07K-013/00; C12N-015/31; G01N-033/569; A61K-039/02
CA Abstract No: ; 116(09)082044T
Derwent WPI Acc No: ; C 91-222844
Language of Document: German

WORLD INTELLECTUAL PROPERTY ORGANIZATION, PCT (WO)

Legal Status (No,Type,Date,Code,Text):
WO 9109870 P 891222 WO AA PRIORITY (PATENT)
DE 3942728 A 891222
WO 9109870 P 900613 WO AA PRIORITY (PATENT)
DE 4018988 A 900613
WO 9109870 P 901221 WO AE APPLICATION DATA (APPL. DATA)

WO 9109870 P 910711 WO 90EP2282 A 901221
WO AK DESIGNATED STATES CITED IN A
PUBLISHED APPLICATION WITH SEARCH REPORT
(DESIGNATED STATES CITED IN A PUBLISHED APPL.
WITH SEARCH REPORT)
AU CA FI JP NO US
WO 9109870 P 910711 WO AL DESIGNATED COUNTRIES FOR
REGIONAL PATENTS CITED IN A PUBLISHED
APPLICATION WITH SEARCH REPORT (DESIGNATED
COUNTRIES FOR REGIONAL PATENTS CITED IN A
PUBLISHED APPL. WITH SEARCH REPORT)
AT BE CH DE DK ES FR GB GR IT LU NL SE
WO 9109870 P 910711 WO A1 PUBLICATION OF THE INTERNATIONAL
APPLICATION WITH THE INTERNATIONAL SEARCH
REPORT (PUB. OF THE INTERNATIONAL APPL. WITH
THE INTERNATIONAL SEARCH REPORT)
WO 9109870 P 920622 WO ENP ENTRY INTO THE NATIONAL PHASE
IN:

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DIALOG(R) File 351:DERWENT WPI
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WPI Acc No: 91-222844/199130

Related WPI Acc No: 91-149753

XRAM Acc No: C91-096793

XRPX Acc No: N91-170094

New *Borrelia burgdorferi* proteins - useful as immunoassay reagents and antigens for vaccine prodn.

Patent Assignee: MIKROGEN MOLEKULARBIOLOGISCHE (MIKR-N); MIKROGEN MOLEKULARB (MIKR-N)

Inventor: FUCHS R; MOTZ M; PREAC-MURSIC V; SOUTSCHEK E; WILSKE B

Number of Countries: 019 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
WO 9109870	A	19910711					199130 B
AU 9170586	A	19910724					199143
DE 4018988	A	19911219	DE 4018988	A	19900613		199201
EP 506868	A1	19921007	WO 90EP2282	A	19901221	C07K-013/00	199241
			EP 91902687	A	19901221		
EP 506868	B1	19960717	WO 90EP2282	A	19901221	C07K-014/00	199633
			EP 91902687	A	19901221		
DE 59010422	G	19960822	DE 510422	A	19901221	C07K-014/00	199639
			WO 90EP2282	A	19901221		
			EP 91902687	A	19901221		
ES 2092560	T3	19961201	EP 91902687	A	19901221	C07K-014/00	199704

Priority Applications (No Type Date): DE 4018988 A 19900613; DE 3942728 A 19891222

Cited Patents: 3.Jnl.Ref; EP 252641

Patent Details:

Patent	Kind	Lan	Pg	Filing Notes	Application	Patent
WO 9109870	A					
				Designated States (National):	AU CA FI JP NO US	
				Designated States (Regional):	AT BE CH DE DK ES FR GB IT LI LU NL SE	
EP 506868	A1	G	64	Based on		WO 9109870
				Designated States (Regional):	AT BE CH DE DK ES FR GB IT LI LU NL SE	
EP 506868	B1	G	50	Based on		WO 9109870
				Designated States (Regional):	AT BE CH DE DK ES FR GB IT LI LU NL SE	
DE 59010422	G			Based on		EP 506868
				Based on		WO 9109870
ES 2092560	T3			Based on		EP 506868

Abstract (Basic): WO 9109870 A

Immunologically active proteins (I) of *Borrelia burgdorferi*, in a form free of other proteins derived from *B. burgdorferi*, are new.

(I) are recombinant proteins with molecular wts. of 17 kD (p17), 22 kD (pC), 41 kD (p41 = flagellin), 100 kD (p100) and 31 kD (OspA). The amino acid sequences of pC, p41, p100 and OspA are given. (I) have been produced by cloning restriction fragments of DNA from *B. burgdorferi* (DSM 5662) in *E. coli*.

USE/ADVANTAGE - (I) are useful (a) as immunoassay reagents for detection of antibodies directed against *Borrelia* spp., esp. for early diagnosis of lyme borreliosis, and (b) antigens for prodn. of vaccines against infections caused by *Borrelia* spp., esp. lyme borreliosis. (I) give a good antibody response with little cross-reactivity with related pathogens, esp. the syphilis pathogen *Treponema pallidum*.

In an example, an *E. coli* clone producing a p41 fusion protein was produced by amplifying *B. burgdorferi* DNA by PCR using primers corresp. to the translational start and 3' end sequences of flagellin, digesting the prod. with BamHI and PstI, ligating the resulting fragments into BamHI/PstI-digested pUC8, and transforming *E. coli* JM 109 with the prod. (64pp Dwg.No.0/7)

Abstract (Equivalent): EP 506868 B

Immunologically active proteins (I) of *Borrelia burgdorferi*, in a form free of other proteins derived from *B. burgdorferi*, are new. (I)

are recombinant proteins with molecular wts. of 17 kD (p17), 22 kD (pC), 41 kD (p41 = flagellin), 100 kD (p100) and 31 kD (OspA). The amino acid sequences of pC, p41, p100 and OspA are given. (I) have been produced by cloning restriction fragments of DNA from B.burgdorferi (DSM 5662) in E.coli.

USE/ADVANTAGE - (I) are useful (a) as immunoassay reagents for detection of antibodies directed against Borrelia spp., esp. for early diagnosis of lyme borreliosis, and (b) antigens for prodn. of vaccines against infections caused by Borrelia spp., esp. lyme borreliosis. (I) give a good antibody response with little cross-reactivity with related pathogens, esp. the syphilis pathogen Treponema pallidum.

In an example, an E. coli clone produced a p41 fusion protein was produced by amplifying B. burgdorferi DNA by PCR using primers corresp. to the translational start and 3' end sequences of flagellin, digesting the prod. with BamHI and PstI, ligating the resulting fragments into BamHI/PstI-digested pUC8, and transforming E.coli JM 109 with the prod..

(Dwg.0/7)

Title Terms: NEW; BORRELIA; PROTEIN; USEFUL; IMMUNOASSAY; REAGENT; ANTIGEN; VACCINE; PRODUCE

Derwent Class: B04; D16; S03

International Patent Class (Main): C07K-013/00; C07K-014/00

International Patent Class (Additional): A61K-037/02; A61K-039/02;

C07K-015/04; C12N-015/31; C12Q-001/28; G01N-033/56; G01N-033/569

File Segment: CPI; EPI

Manual Codes (CPI/A-N): B02-V02; B04-B02C; B04-B04A1; B04-B04A5; B04-B04C1;

B04-B04C3; B11-C07A4; B12-K04A; D05-C12; D05-H03B; D05-H04; D05-H07;

D05-H09

Manual Codes (EPI/S-X): S03-E14H4

Chemical Fragment Codes (M1):

01 M421 M423 M710 M781 M903 N102 P831 Q233 V279 V288 V752

Chemical Fragment Codes (M6):

03 M903 P831 Q233 R515 R521 R533 R624 R627 R630 R635

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DIALOG(R) File 351:DERWENT WPI
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008645724

WPI Acc No: 91-149753/199121

Related WPI Acc No: 91-222844

XRAM Acc No: C91-064766

XRPX Acc No: N91-114972

New immunologically active proteins derived from *Borrelia burgdorferi* in polyethylene vessel and a high density polyethylene sealing cap - useful as vaccine and for quick accurate diagnosis of *Borrelia* infections

Patent Assignee: MIKROGEN MOLEKULARB (MIKR-N)

Inventor: FUCHS R; MOTZ M; SOUTSCHEK R; WILSKE B

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
DE 3942728	C	19910523	DE 3942728	A	19891222		199121 B

Priority Applications (No Type Date): DE 3942728 A 19891222

Abstract (Basic): DE 3942728 C

New pure immunologically active proteins derived from *Borrelia burgdorferi* are claimed. The proteins are produced from DNA isolated from *Borrelia burgdorferi* (DSM No.5662). They can have molecular weights of 41, 22, 17 or 100 kDa. The following partial sequences are specifically claimed for the 22 kDa protein:

Lys-Ile-Thr-Asp-Ser-Asn -Ala-Thr-Val-Leu-Ala-Val-Lys.

and/or Asp-Leu-Phe-Glu-Ser-Val -Glu-Gly-Leu-Leu-Lys.

The 100 kDa protein preferably has a partial sequence of formula.

Glu-Leu-Asp-Lys-Glu-Lys-Leu-Lys -Asp-Phe-Val-Asn-Leu-Asp -Leu-Glu-Phe-Val-Asn-Thr. Also claimed are monoclonal antibodies produced from *B. burgdorferi* DSM No.5662.

USE/ADVANTAGE - For the preparation of vaccines against *Borrelia* infections (claimed), e.g. early summer meningoencephalitis or Lyme borreliosis. Because of their purity, the proteins are also useful for quick, economical and accurate diagnosis of such infections, without the risk of confusion with similar diseases such as syphilis. (25pp Dwg.No.0/7)

Title Terms: NEW; IMMUNOLOGICAL; ACTIVE; PROTEIN; DERIVATIVE; POLYETHYLENE; VESSEL; HIGH; DENSITY; POLYETHYLENE; SEAL; CAP; USEFUL; VACCINE; QUICK; ACCURACY; DIAGNOSE; INFECT

Derwent Class: B04; D16

International Patent Class (Additional): A61K-039/02; A61K-049/00;

C07K-015/04; C12N-015/63; C12Q-001/28; G01N-033/53

File Segment: CPI

Manual Codes (CPI/A-N): B02-V02; B04-B02B1; B04-B04A5; B04-B04C5; B11-C07A4 ; B12-K04A; D05-C12; D05-H04; D05-H07; D05-H11; D05-H12

Chemical Fragment Codes (M1):

01 M421 M423 M431 M710 M782 M903 N102 N135 P831 Q233 V288 V500 V540 V752

Chemical Fragment Codes (M6):

06 M903 P831 Q233 R515 R521 R621 R624 R626 R635